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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/799,008

03/12/2004

Lakhi N. Gocnka

10541-1941

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29074

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06/29/2007

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EXAMINER

PHILLIPS, FORREST M

ART UNIT

PAPER NUMBER

2837

MAIL DATE

DELIVERY MODE

06/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/799,008

Applicant(s)

GOENKA ET AL.

Examiner

Forrest M. Phillips

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-19 is/are pending in the application.
- 4a) Of the above claim(s) 3, 8-11 and 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 4-7 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koelmel et al (US20030230273) in view of JP4102621 and Wood (US6183211).

With respect to claim 2 Koelmel discloses a resonator for attenuating acoustic pressure pulsation in an air passage, the resonator comprising: a neck (11 in figure 4) attached in a side branch configuration with the air passage, the neck having a neck length; at least one wall forming a resonator chamber (10 in figure 4) a first member (9) cooperating with the at least one wall to form a resonator volume (12); and a first actuator (19) coupled to the first member and configured to translate the first member changing the resonator volume and neck length (see figure 4).

The Japanese patent discloses a resonator (1 in figure 3) having a neck (3 in figure 3) with a neck length (t in figure 3) at least one wall (2 in figure 3) forming a resonator chamber, a first member (41 in figure 3) located within the resonator chamber, and an actuator coupled with the member and configured to translate the member changing the resonator volume.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of the Japanese patent to use a moveable member within a

Art Unit: 2837

resonator volume with the resonator structure of Koelmel, to reduce the possibility of air leaking from the resonator structure, as the resonator structure as taught by the Japanese patent would be completely sealed.

Koelmel in view of the Japanese patent does not disclose wherein the first actuator is a motor and a crank shaft

Wood discloses the use of a motor and a crank shaft as a mechanism for converting rotational motion to linear motion, as required by Koelmel to move the member.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Wood to use a motor and a crankshaft to convert rotational motion to linear motion with the resonator of Koelmel as modified to provide a means of converting rotational motion that requires the motor turn only in one direction and wherein the position of the sliding member would be known only from the rotational position of the motor.

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koelmel in view of the Japanese patent and Wood as applied to claim 2 above, and further in view of Sawada et al (US4539947).

With respect to claim 4 Koelmel in view of the Japanese patent and Wood discloses the invention as claimed except further comprising a second actuator coupled with the first member and the neck.

Sawada discloses an actuator (18 in figure 2) coupled with the back wall of a resonator and coupled to the neck (15 in figure 2).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Sawada to have an actuator coupled with the neck and a wall of the resonator with the neck and the wall of the resonator of Koelmel as modified.

With respect to claim 5 Sawada further discloses wherein the second actuator is configured to vary the neck length (refer to figures 5 and 6).

With respect to claim 6 the use of a motor and a screw as a resonator adjusting device is well known as demonstrated by the Japanese patent.

With respect to claim 7 Sawada further discloses further comprising a second member (15b in figure 2) coupled to the neck and configured to change the resonator volume in relation to the neck length (refer to figures 5 and 6).

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koelmel in view of the Japanese patent and Sawada.

With respect to claim 12 Koelmel discloses a resonator for attenuating pressure pulsation from an air passage, the resonator comprising:

A neck (13 in figure 4) attached in a side branch configuration with the air passage; the neck having a neck length (LH in figure 4) at least one wall (9 in figure 4) forming a resonator chamber, a first member (14 in figure 4), cooperating with the at least one wall to form a resonator volume (12 in figure 4) and a first actuator (19 in figure 4) coupled to the first member, and configured to translate the first member changing the resonator volume and neck length (refer to figure 4).

Koelmel does not disclose the first member located within the resonant chamber or a second actuator coupled with the first member and the neck.

The Japanese patent discloses a resonator (1 in figure 3) having a neck (3 in figure 3) with a neck length (t in figure 3) at least one wall (2 in figure 3) forming a resonator chamber, a first member (41 in figure 3) located within the resonator chamber, and an actuator coupled with the member and configured to translate the member changing the resonator volume.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of the Japanese patent to use a moveable member within a resonator volume with the resonator structure of Koelmel, to reduce the possibility of air leaking from the resonator structure, as the resonator structure as taught by the Japanese patent would be completely sealed.

Koelmel in view of the Japanese patent does not disclose a second actuator coupled with the first member and the neck.

Sawada discloses an actuator coupled with a resonator wall (18 in figure 2) and coupled to the neck (15 in figure 2).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Sawada to have an actuator coupled with the neck and a resonator wall with the resonator structure of Koelmel in view of the Japanese patent. As the moveable member of Koelmel is a wall defining the resonator volume.

With respect to claim 13 Sawada further discloses wherein the second actuator is configured to vary the neck length (refer to figures 5 and 6).

With respect to claim 14 the Japanese patent discloses the use of a screw mechanism to vary resonator parameters. At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of the Japanese patent to use a screw mechanism for the second actuator as taught by Sawada. While not explicitly stated that the screw mechanism includes a motor it would have been obvious to one of ordinary skill in the art to at the time the invention was made to use a motorized mechanism as opposed to a manual mechanism as it has been held that providing an automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. In re Venner, 120 USPQ 192.

With respect to claim 15 Koelmel discloses a resonator for attenuating acoustic vibration from an air passage, the resonator comprising:

A neck (13 in figure 4) attached in a side branch configuration with the air passage; the neck having a neck length (LH in figure 4) at least one wall (9 in figure 4) forming a resonator chamber, a first member (14 in figure 4), cooperating with the at least one wall to form a resonator volume (12 in figure 4) and a first actuator (19 in figure 4) coupled to the first member, and configured to translate the first member changing the resonator volume and neck length (refer to figure 4).

Koelmel does not disclose the first member located within the resonant chamber or a second actuator coupled with the first member and the neck.

The Japanese patent discloses a resonator (1 in figure 3) having a neck (3 in figure 3) with a neck length (t in figure 3) at least one wall (2 in figure 3) forming a resonator chamber, a first member (41 in figure 3) located within the resonator

Art Unit: 2837

chamber, and an actuator coupled with the member and configured to translate the member changing the resonator volume.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of the Japanese patent to use a moveable member within a resonator volume with the resonator structure of Koelmel, to reduce the possibility of air leaking from the resonator structure, as the resonator structure as taught by the Japanese patent would be completely sealed.

Koelmel in view of the Japanese patent does not disclose a second actuator coupled with the neck and configured to change the resonator volume in relation to the neck length.

Sawada discloses an actuator coupled with a resonator wall (18 in figure 2) and coupled to the neck (15 in figure 2).

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Sawada to have an actuator coupled with the neck and a resonator wall with the resonator structure of Koelmel in view of the Japanese patent. As the moveable member of Koelmel is a wall defining the resonator volume. The change in neck length would necessarily change the relationship between resonator volume and neck length.

Response to Arguments

Applicant's arguments filed 4/23/07 have been fully considered but they are not persuasive. Pertaining only to claims 12-15. Applicant argues that none of the cited

Art Unit: 2837

references demonstrates the use of multiple actuators and moveable members.

Examiner disagrees, Koelmel demonstrates in figure 4 the use of multiple moving members and actuators there for to vary the volume of the resonant chambers. Koelmel teach a second actuator combined to a moving wall which varies the resonator volume in relation to the neck length. The relation ship between resonator volume and neck length could also be varied by having a second actuator configured to vary the neck length as taught by Sawada. Examiner considers it would have been obvious to one of ordinary skill in the art to vary the relationship in which ever way was most conducive the environmental constraints such as space under a hood.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2837

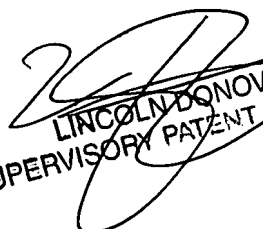
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Forrest M. Phillips whose telephone number is 5712729020. The examiner can normally be reached on Monday through Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 5712721988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FP


LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER